

REMARKS/ARGUMENTS

This is in response to the Official Action mailed April 22, 2004 for the above-captioned application. Reconsideration of the application, as amended, is respectfully requested.

Paragraph [0008] of the specification has been amended to correct typographical errors. Namely the spelling of photoluminescent and photoluminescence is now correct. Claims 55 and 57 have been amended to correct clerical errors. Namely claims 55 and 57 have been amended to change their dependancy from independent claim 1 to claim 43.

The Examiner has rejected claims 1, 31-33, 43, 58, 77, and 96 under § 103 (a) as being unpatentable over Schöniger et al. (US 5,136,483) in view of Chase et al. (6,502,974 B2). It is the Applicant's position that the combination of Schöniger and Chase does not render the present invention obvious. Chase is cited as suggesting modification of Schöniger such that the Schöniger slab may be made from polycarbonate, however, the combination does not render the claimed invention obvious because the result of the combination does not fall within the scope of the claims. Assuming, arguendo, that such a modification is appropriate, the combination does not provide a lamp with a "visual effect at the edge" as required in the present claims.

In particular the Examiner is respectfully directed to paragraphs [0007-0008] of the specification:

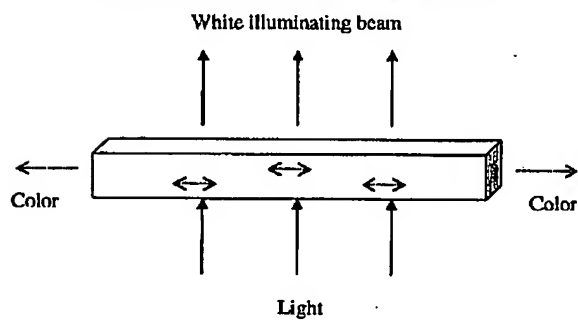
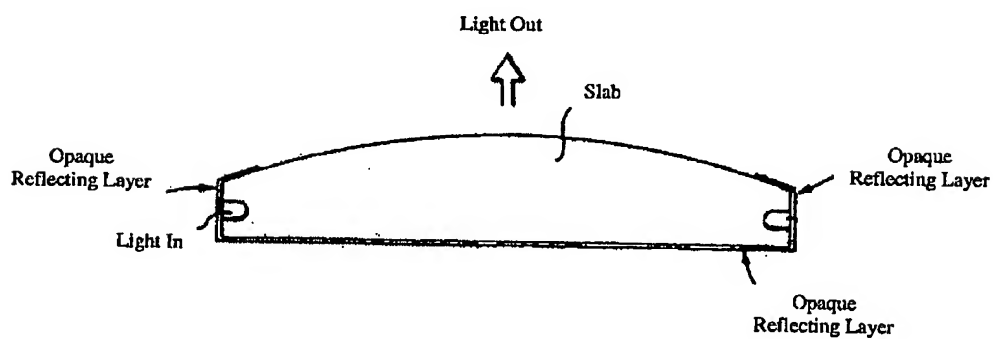
[0007] This application relates to lenses and bezels which can be used in combination with lamps to provide an aesthetic visual effect in the form of a colored glow at the edge of the lens or bezel when the lamp is turned on. In preferred applications, the lens is constructed and sized to serve as the outer lens of an automotive headlamp with or without a bezel. Headlamps may also be made which include a bezel providing a visual effect with a conventional lens. Alternatively, the lens or bezel may be designed to fit on a flashlight or other lamp.

[0008] The lens of the present invention comprises a molded body having a generally concave outer surface, a flat or convex inner surface and an edge surface, wherein the molded body is formed from a composition comprising polycarbonate and a photoluminescent material. Light which includes light of a wavelength within the excitation spectrum of the photoluminescent material is partially absorbed and partially transmitted. The absorbed light is at least partially (depending on the quantum yield of the luminescence) emitted as light of a higher wavelength (as a result of a Stokes shift) and is conducted to a substantial extent to the edge surface of the lens thereby creating a colored visual effect at the edge

of the lens. As used in the specification and claims of this application, the term "substantial extent" means in an amount effective to create an observable visual effect. Generally at least 10 % of the light emitted by photoluminescence is conducted through the interior of the lens to the edges, preferably at least 30 %. This is achieved in polycarbonate lenses and bezels because the high index of refraction results in significant amount of internal reflection.

The present invention claims lenses, bezels, and headlamps wherein white light transmitted from the inner to the outer surfaces of the lenses and bezels results in emission from a fluorescent dye contained within the lenses and bezels which is conducted to a substantial extent to an edge surface thereof. The fluorescent transmission of light may then escape an edge thereof thereby creating the claimed "visual effect." As described in the specification at paragraphs [0007 - 0008] the limitation "visual effect" contained within each and every independent claim of the present invention (i.e. claims 1, 43, 58, 77, and 96) is an "aesthetic visual effect in the form of a colored glow at the edge of the lens or bezel." Figure one demonstrates the limitation of a "visual effect" of the present invention. As white light passes through the polycarbonate of the lens or bezel, from one major surface to the other, the photoluminescent material is excited thereby emitting light that travels along the polycarbonate and escapes at an edge thereof, thereby providing the colored visual effect.

Schöniger simply does not allow for such a visual effect. As figure two demonstrates, Schöniger provides no more than a slab of glass or transparent resin that is peripherally bound by a reflective material. This reflective material eliminates the possibility of emitting light from an edge of the slab. Because the Schöniger slab is peripherally bound by the reflective material, light that is conducted within the slab is reflected at the edges directly back into the slab. (See Schöniger, Column 3, lines 40 - 48) (See also Schöniger, Claim 1, Column 5, lines 3 - 7) (See also Schöniger, Claim 10, Column 6, lines 18 - 20) (See also figure 2). This distinction between present invention and the combination of Schöniger and Chase is believed to overcome Examiner's obviousness rejection.


Present Invention (Lenses and Bezels)**Fig. 1****Schöniger et al. (X-Section Peripherally Bound Slab)****Fig. 2**

In addition to the fact that combination of Schöniger and Chase provides no possibility of an edge effect, structural differences between the combination and the present invention render the present invention unobvious. As shown in figure 2, light is introduced to the Schöniger slab at the edge thereof and is conducted through the slab where it exits as a beam at the light radiating surface. (See figure two). In contrast, the present invention provides headlamps wherein light is introduced to the lens or bezel not at the edge but at a major surface thereof and exits the material at a major surface thereof. (See figure one).

In addition to the aforementioned rejections the Examiner has also rejected claims 2-30, 34-42, 44-57, 59-70, 72-76, and 97-101 under § 103 (a) as being unpatentable over Schöniger, Chase and further in view of Burns et al. (US 5,605,761). Burns is cited as suggesting modification of Chase such that polycarbonate articles may contain fluorescent dye, however, Burns does not overcome the deficiency of the combination of Schöniger and Chase in that the combination does not meet the "visual effect" limitation of each and every independent claim. Thus, these rejections are believed to be overcome.

In view of the foregoing arguments, Applicants submit that the claims are not obvious over the cited combination of references. For these reasons, this application is now considered to be in condition for allowance and such action is earnestly solicited. The Commissioner is authorized to charge any fee deemed due to Deposit Account 07-0862.

Respectfully Submitted,


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